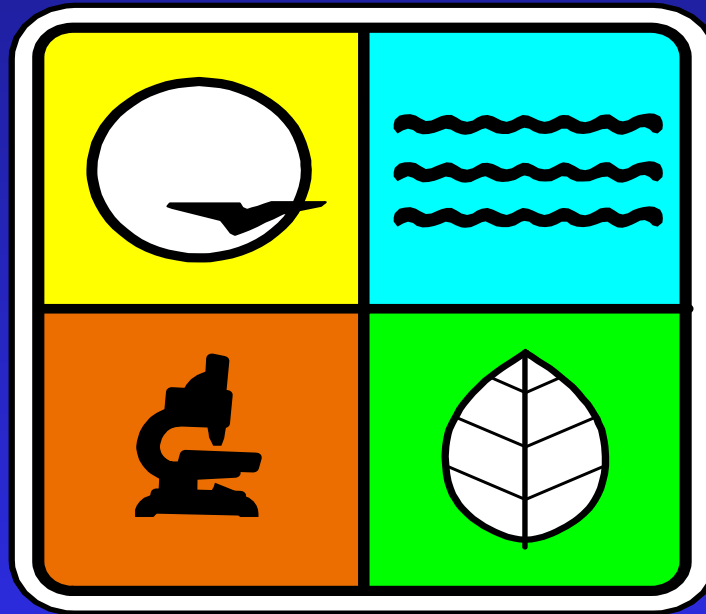


# Public Information and Consultation Meeting **BOUNDARY DESIGNATION**

Eight-hour Ozone Standard

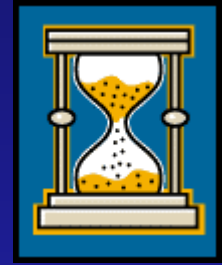


**Refaat Mefrakis, P.E.**

# **EPA's Request**

- **Requested designation recommendations and documentation from each State Governor be submitted to the Regional Administrator by April 15, 2003.**

# Consent Decree



- **Set April 15, 2004, as the date that area designations for the 8-hour ozone standard will be finalized by EPA.**

# Missouri Submittal in 2000

- **Recommendation and technical support document in July 2000**

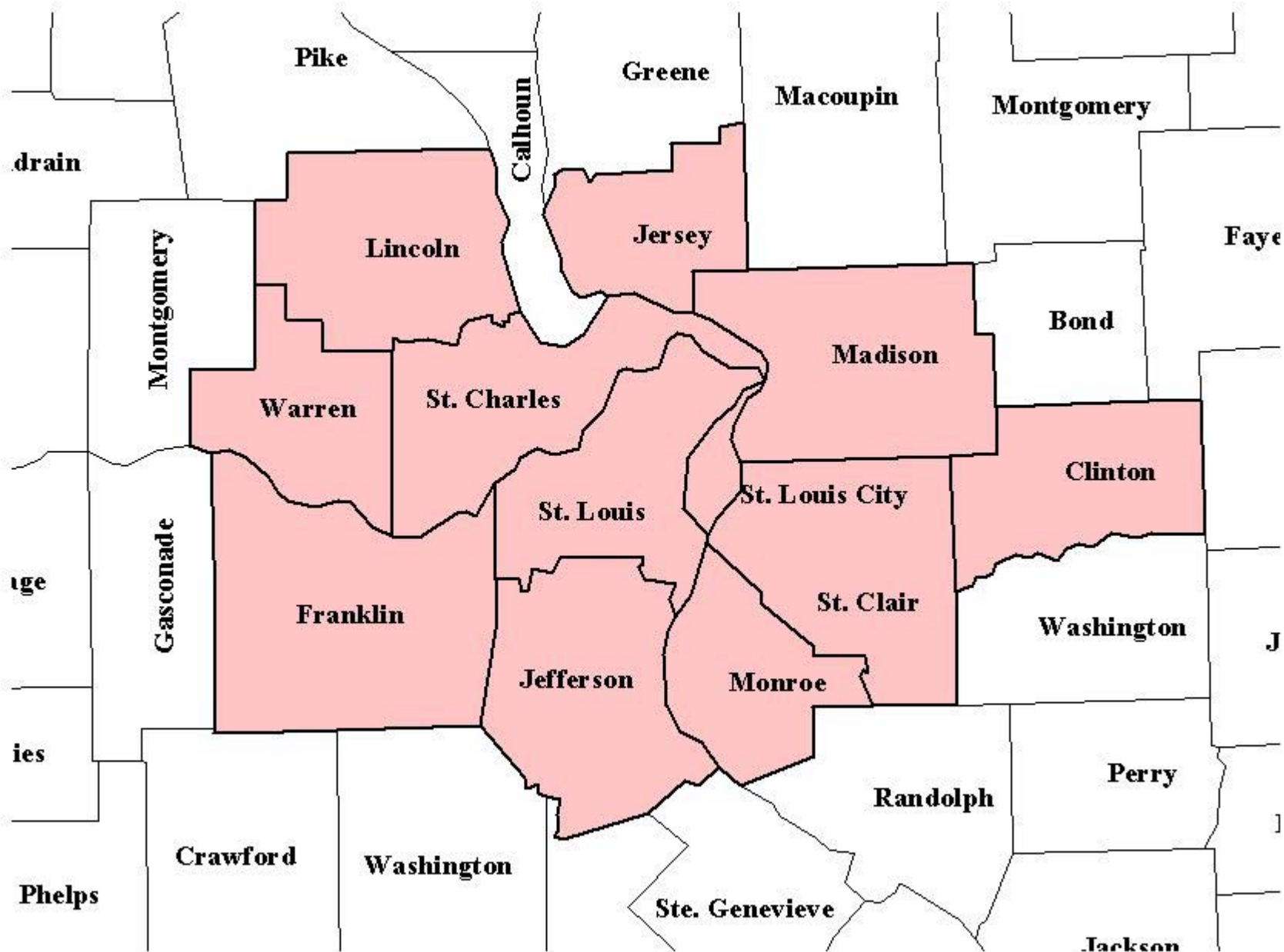
- <http://www.dnr.state.mo.us/alpd/apcp/homeapcp.htm>



# Criteria for Establishing Boundaries

- Area designations are based on air quality data.
- Any area that does not meet **or that contributes to nearby** areas not meeting the ambient air quality standard.
- EPA recommends that **C/MSA** serve as the presumptive boundary for 8-hour ozone nonattainment areas.

# ST. LOUIS MSA





# **EPA Guidance for Establishing Boundaries**

- **EPA asks states wishing to propose boundaries different than the C/MSA to address 11 different factors.**



# **Factors to Consider**

- **Emission and Air Quality**
- **Population Density and Degree of Urbanization**
- **Monitoring Data**
- **Location of Emissions Sources**
- **Traffic and Commuting Pattern**
- **Expected Growth**





# **Factor to Consider Cont'd**

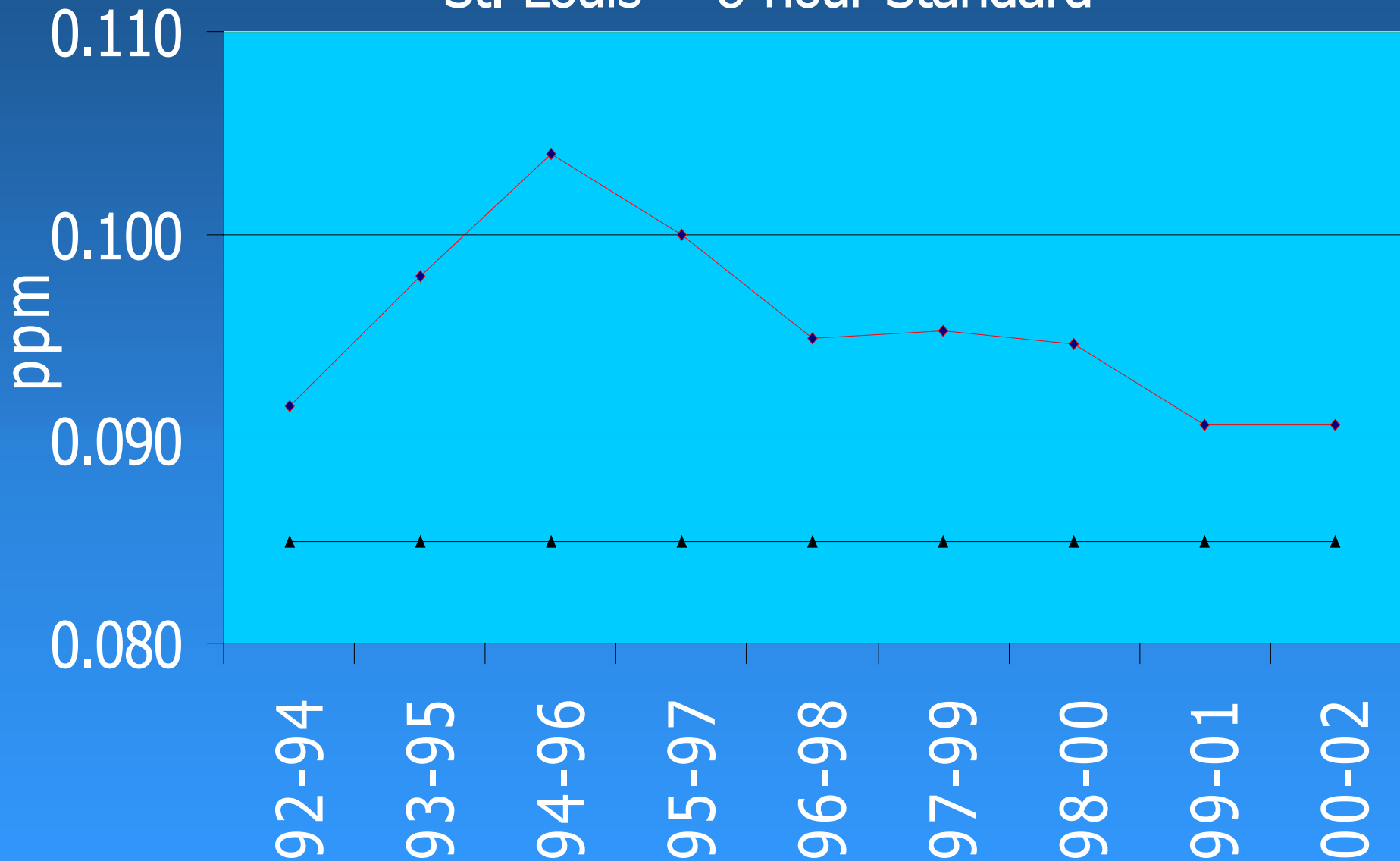
- **Meteorology**
- **Geography/ Topography**
- **Jurisdictional Boundaries**
- **Level of Control of Emission Sources**
- **Regional Emissions Reductions**

# What's a Nonattainment Area?

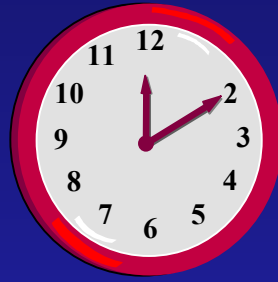
- Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

# 8-hour Design Values

St. Louis 8-hour Standard



# Summary of Timeline



- States are to update recommended designation during 2003.
- Promulgate air quality designation in April of 2004.
- State Implementation Plans are due by 2007.



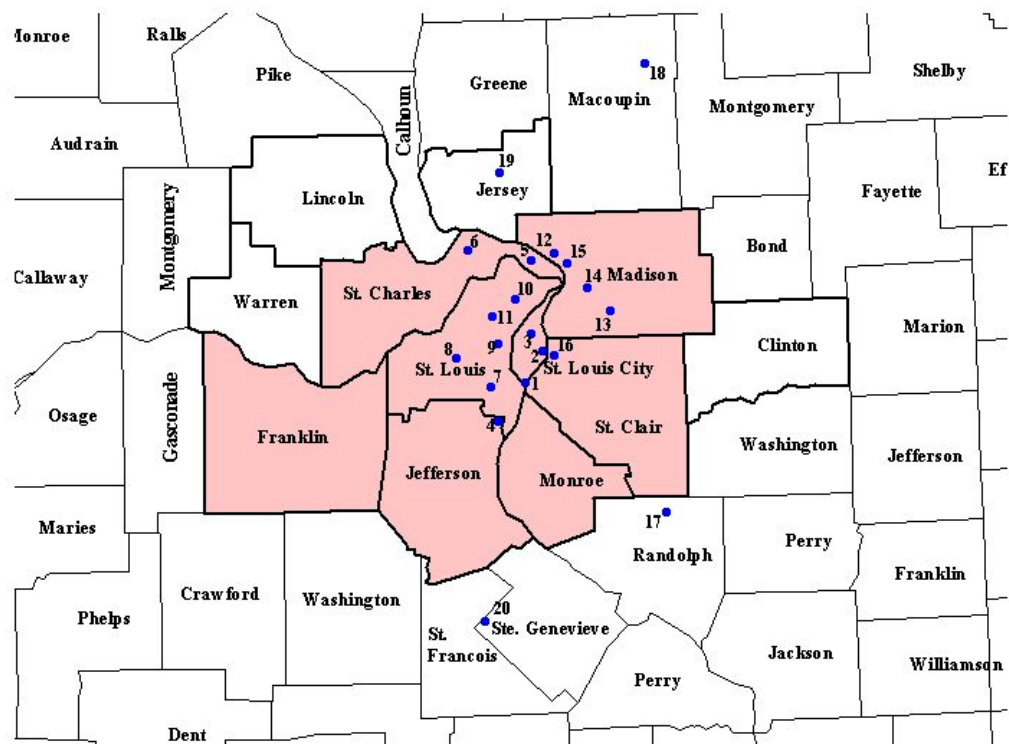
# **Technical Support Document**

## **Jeffry D. Bennett, P. E.**

# **Progress to Date**

- **Review of July 2000 recommendation and technical support document**
- **Collection of “new” information (air quality monitoring data, emissions, traffic count/VMT, population)**

# CURRENT MONITORING LOCATIONS IN THE ST. LOUIS AREA



● Current Monitors

- |                  |                       |
|------------------|-----------------------|
| 1 South Broadway | 11 Breckenridge Hills |
| 2 Clark          | 12 Alton (IL)         |
| 3 Margaretta     | 13 Maryville (IL)     |
| 4 Arnold         | 14 Edwardsville (IL)  |
| 5 West Alton     | 15 Wood River (IL)    |
| 6 Orchard Farm   | 16 E. St. Louis (IL)  |
| 7 Sunset Hills   | 17 Houston (IL)       |
| 8 Queeny Park    | 18 Nilwood (IL)       |
| 9 Ladue          | 19 Jerseyville (IL)   |
| 10 Ferguson      | 20 Bonne Terre        |

MSA  
STL Non-Attainment Area



Missouri Department of Natural Resources  
Air and Land Protection Division  
Air Pollution Control Program  
Cartography by Donald Cripe, January 2003

## 8-hour Ozone Design Values

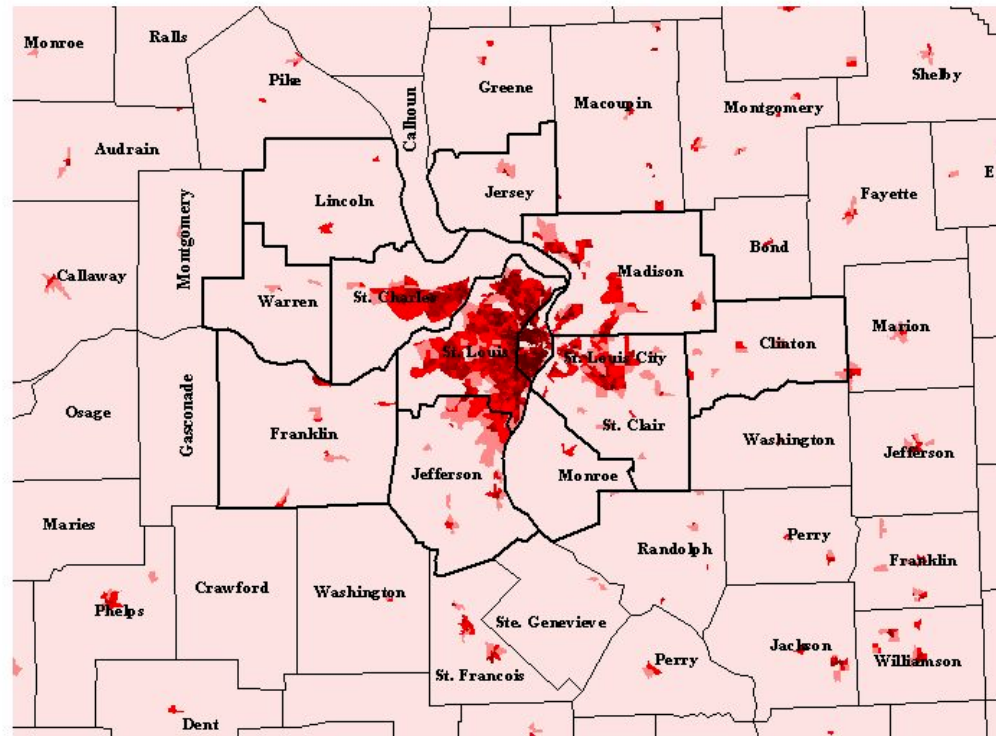
Monitor	95-97	96-98	97-99	98-00	99-01	00-02
	Average	Average	Average	Average	Average	Average
West Alton	<b>100</b>	<b>95</b>	<b>95</b>	<b>94</b>	<b>90</b>	<b>90</b>
Orchard Farm	<b>93</b>	<b>90</b>	<b>91</b>	<b>92</b>	<b>90</b>	<b>90</b>
Jerseyville (IL)	84	<b>85</b>	<b>91</b>	<b>91</b>	<b>89</b>	<b>89</b>
S. Lindbergh	83	84	<b>89</b>	<b>89</b>	<b>88</b>	<b>89</b>
Queeny Park	81	82	<b>85</b>	<b>90</b>	<b>88</b>	<b>88</b>
Newstead	83	81	83	-	-	-
Margaretta						<b>88</b>
Arnold	<b>90</b>	<b>87</b>	<b>92</b>	<b>91</b>	<b>89</b>	<b>86</b>
Ferguson	<b>88</b>	<b>87</b>	<b>89</b>	<b>88</b>	<b>85</b>	<b>86</b>
St. Ann	<b>85</b>	84	<b>87</b>	<b>87</b>	-	-
Breckenridge						<b>86*</b>
E. St. Louis (IL)	78	76	80	82	82	<b>85</b>
Bonne Terre		<b>88</b>	<b>88</b>	<b>90</b>	<b>85</b>	84
Alton (IL)	<b>93</b>	<b>86</b>	<b>86</b>	81	82	84
Clayton – Hunter	83	81	82	83	81	84
S. Broadway	82	79	79	81	81	82
Edwardsville (IL)	<b>88</b>	<b>86</b>	<b>87</b>	<b>86</b>	81	81
Wood River (IL)	<b>89</b>	<b>87</b>	<b>85</b>	82	80	80
Nilwood (IL)	83	81	80	82	80	80
Maryville (IL)	<b>88</b>	<b>87</b>	<b>85</b>	82	78	80
Houston (IL)	78	78	78	80	78	79
Clark & Tucker	72	75	78	74	73	73

**BOLD** denotes monitors that exceed the 85 ppb cutoff

\*2001 and 2002 data only



## 2000 POPULATION DENSITY FOR COUNTIES IN THE ST. LOUIS AREA



### Population Density

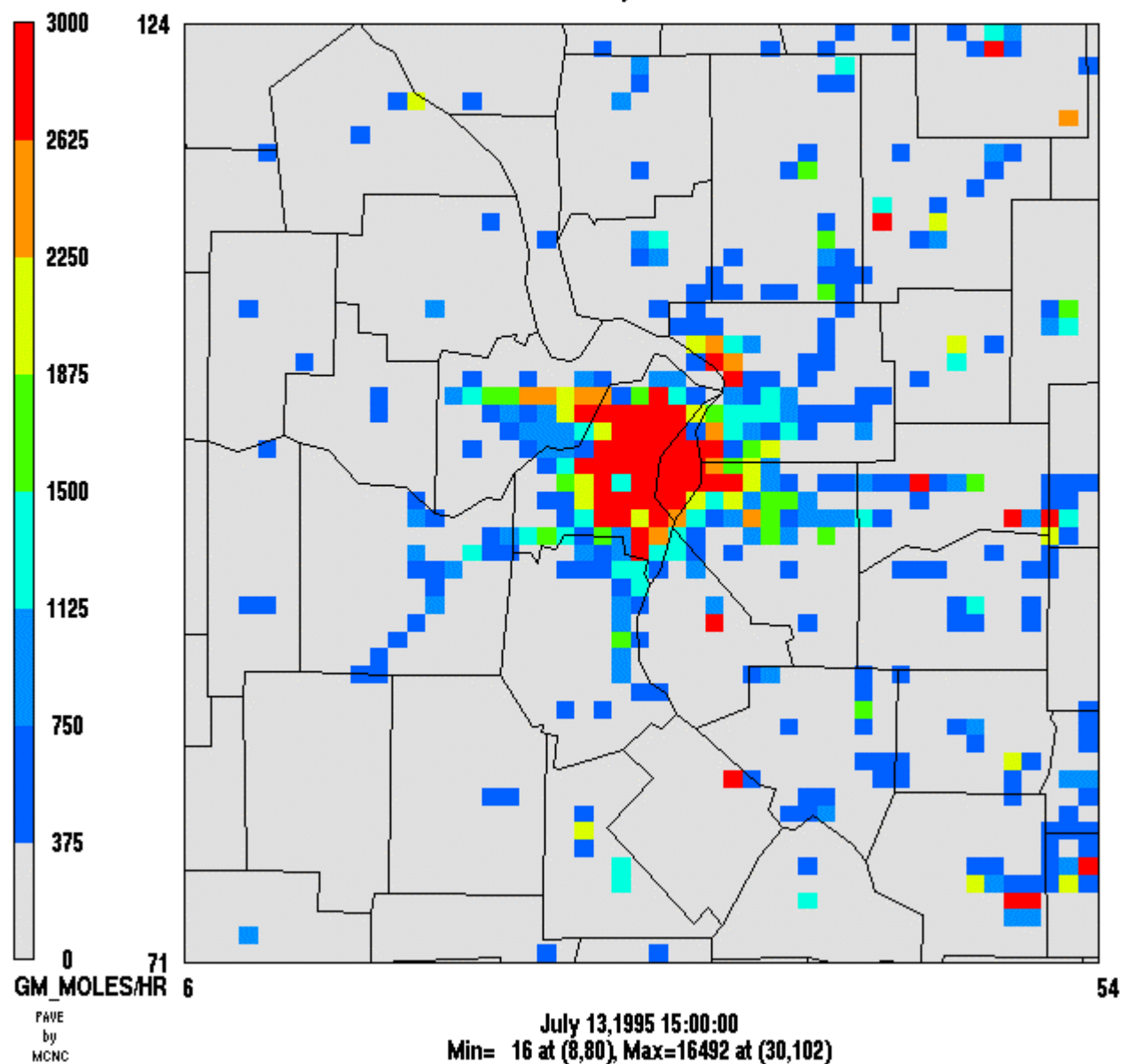


# Population and Emissions Summary

	1990	2000	1999 NOx (TPD)				1999 VOC (TPD)			
	population	population	Point	Area	Mobile	Total	Point	Area	Mobile	Total
<b>MISSOURI</b>										
ST. LOUIS	993,529	1,016,315	24.0	51.7	108.8	184.5	18.0	55.8	65.1	138.9
ST. LOUIS CITY	396,685	348,189	7.6	21.8	28.5	57.9	12.6	16.0	17.0	45.6
ST. CHARLES	212,907	283,883	63.0	16.2	24.5	103.7	6.6	13.0	14.7	34.3
JEFFERSON	171,380	198,099	35.1	6.7	17.7	59.5	3.2	7.3	10.6	21.1
FRANKLIN	80,603	93,807	33.6	9.4	12.4	55.4	3.6	5.4	8.3	17.3
Lincoln	28,892	38,944	0.4	1.4	4.0	5.8	0.4	4.2	2.5	7.0
Warren	19,534	24,525	0.4	1.1	4.4	5.9	0.5	4.0	2.8	7.2
<b>Missouri MSA</b>	<b>1,903,530</b>	<b>2,003,762</b>	<b>164.1</b>	<b>108.4</b>	<b>200.3</b>	<b>472.8</b>	<b>44.8</b>	<b>105.8</b>	<b>121.0</b>	<b>271.6</b>
St. Francois	48,904	55,641	1.3	1.5	5.2	8.0	0.3	5.5	3.2	9.0
Washington	20,380	23,344	0.1	0.4	2.2	2.7	0.2	2.4	2.2	4.7
Crawford	19,173	22,804	0.1	0.8	4.4	5.3	0.7	3.6	2.8	7.1
Pike	15,969	18,351	29.7	1.6	2.5	33.8	8.3	2.7	1.6	12.6
Ste. Genevieve	16,037	17,842	11.5	0.8	3.4	15.7	0.5	1.9	2.1	4.5
Gasconade	14,006	15,342	0.2	0.8	1.8	2.8	0.4	2.4	1.1	3.9
Montgomery	11,355	12,136	0.3	1.1	4.0	5.4	0.0	1.9	2.5	4.4
<b>ILLINOIS</b>										
MADISON	249,238	258,941	57.3	11.8	27.5	96.6	12.9	24.2	13.7	50.9
ST. CLAIR	262,852	256,082	4.7	10.4	26.0	41.0	4.4	21.2	13.0	38.6
MONROE	22,422	27,619	0.7	3.2	3.3	7.1	0.2	4.9	1.8	6.8
Clinton	33,944	35,535	8.4	4.6	3.8	16.7	0.4	7.6	3.0	11.0
Jersey	20,539	21,668	0.0	2.8	2.2	5.0	0.4	2.7	3.0	6.0
<b>Illinois MSA</b>	<b>588,995</b>	<b>599,845</b>	<b>71.0</b>	<b>32.8</b>	<b>62.8</b>	<b>166.5</b>	<b>18.3</b>	<b>60.7</b>	<b>34.3</b>	<b>113.2</b>

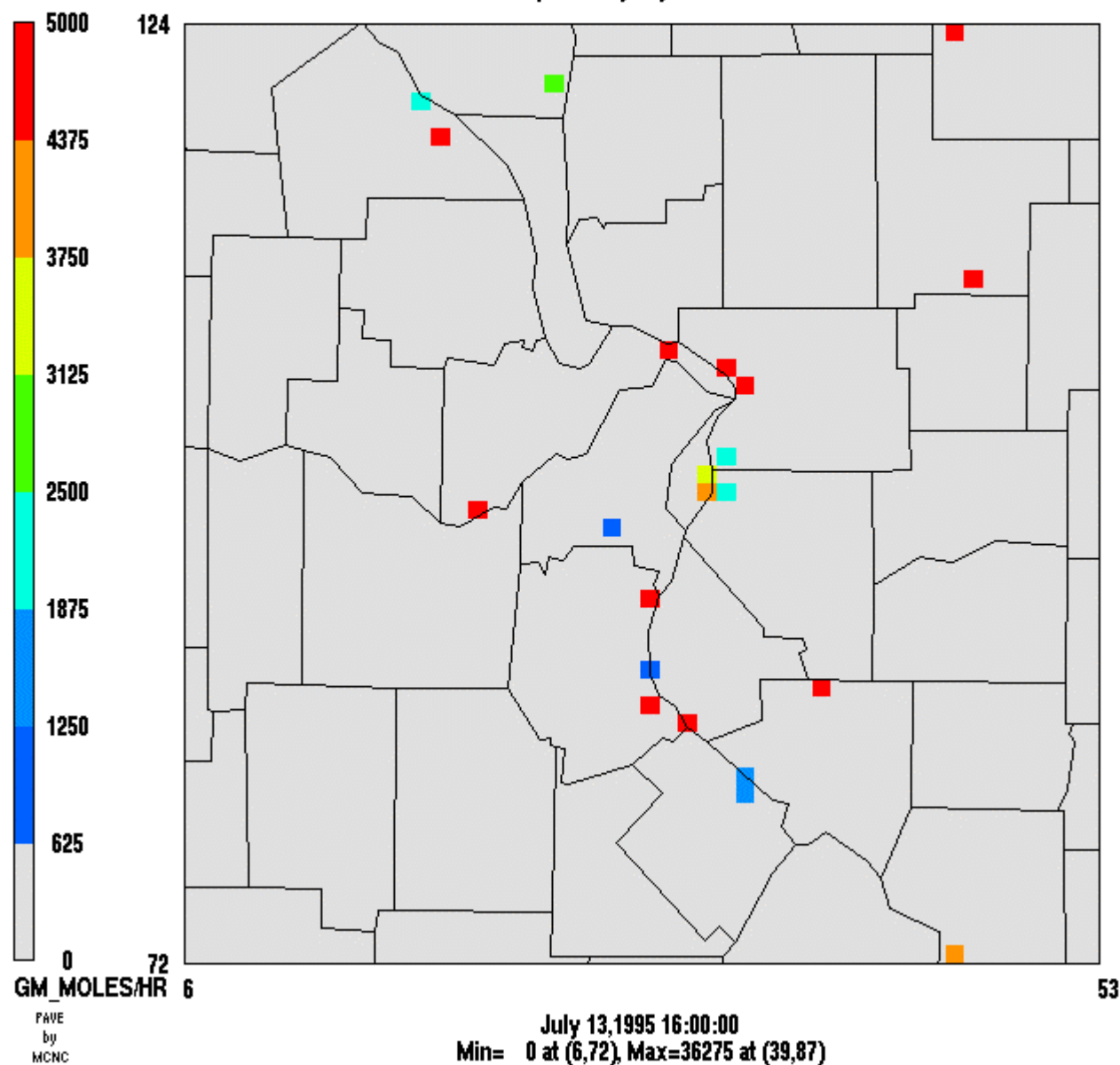
# Total Low-level NOx Emissions

2003 Attainment Demonstration Inventory  
c=emis.jul95.strat3



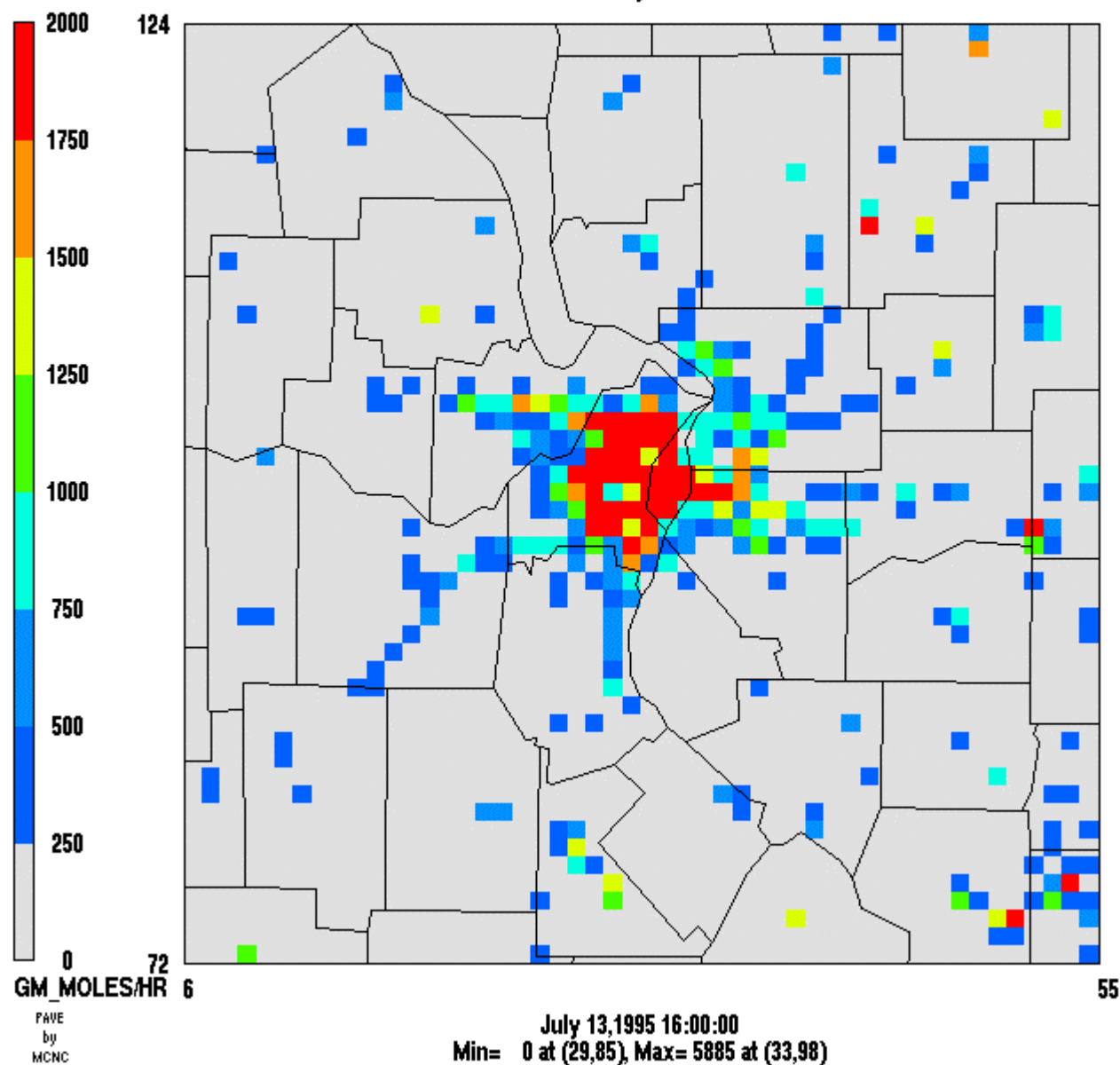
# Elevated Point Source NOx Emissions

2003 Attainment Demonstration Inventory  
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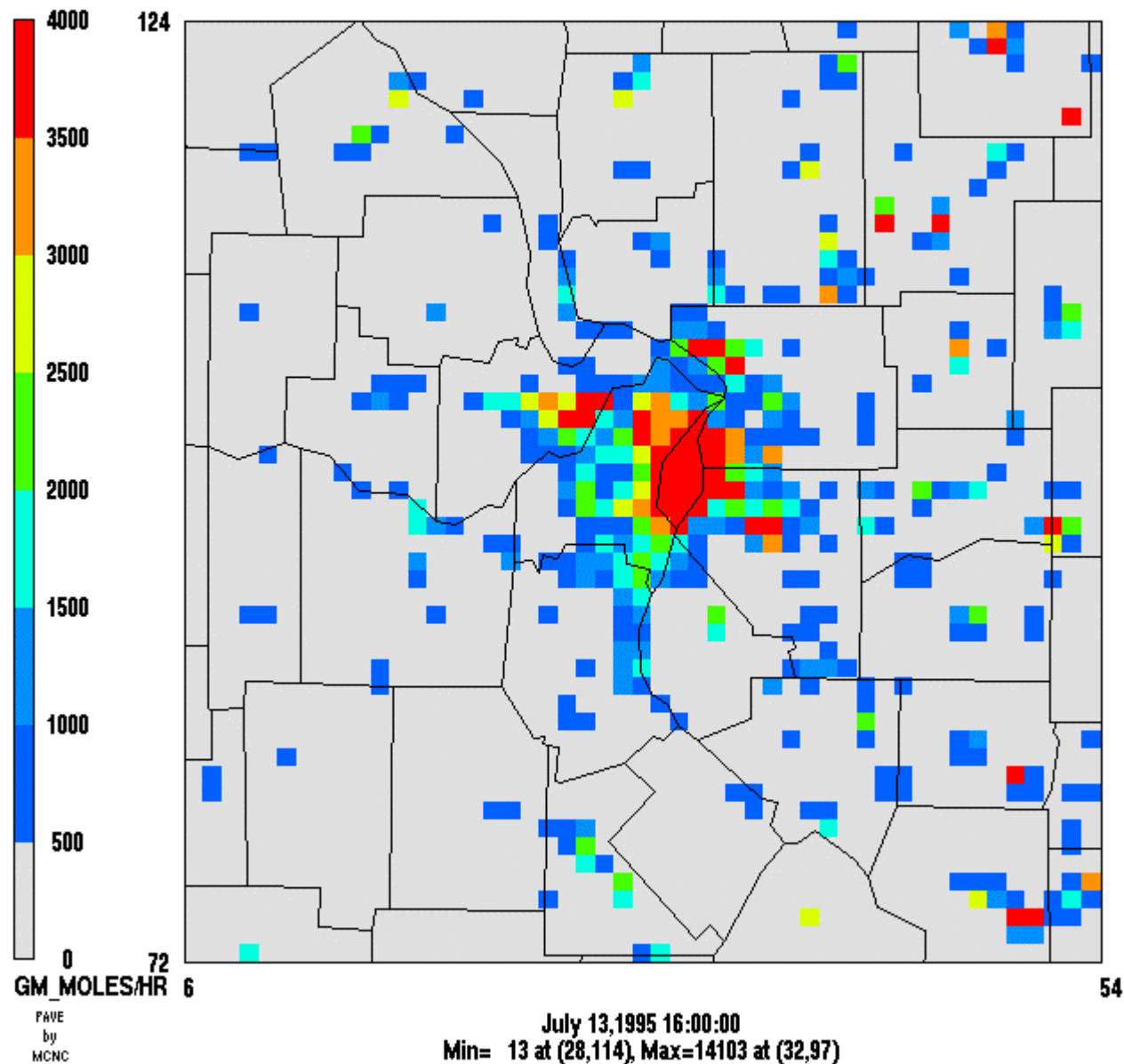
# Mobile Source VOC Emissions

2003 Attainment Demonstration Inventory  
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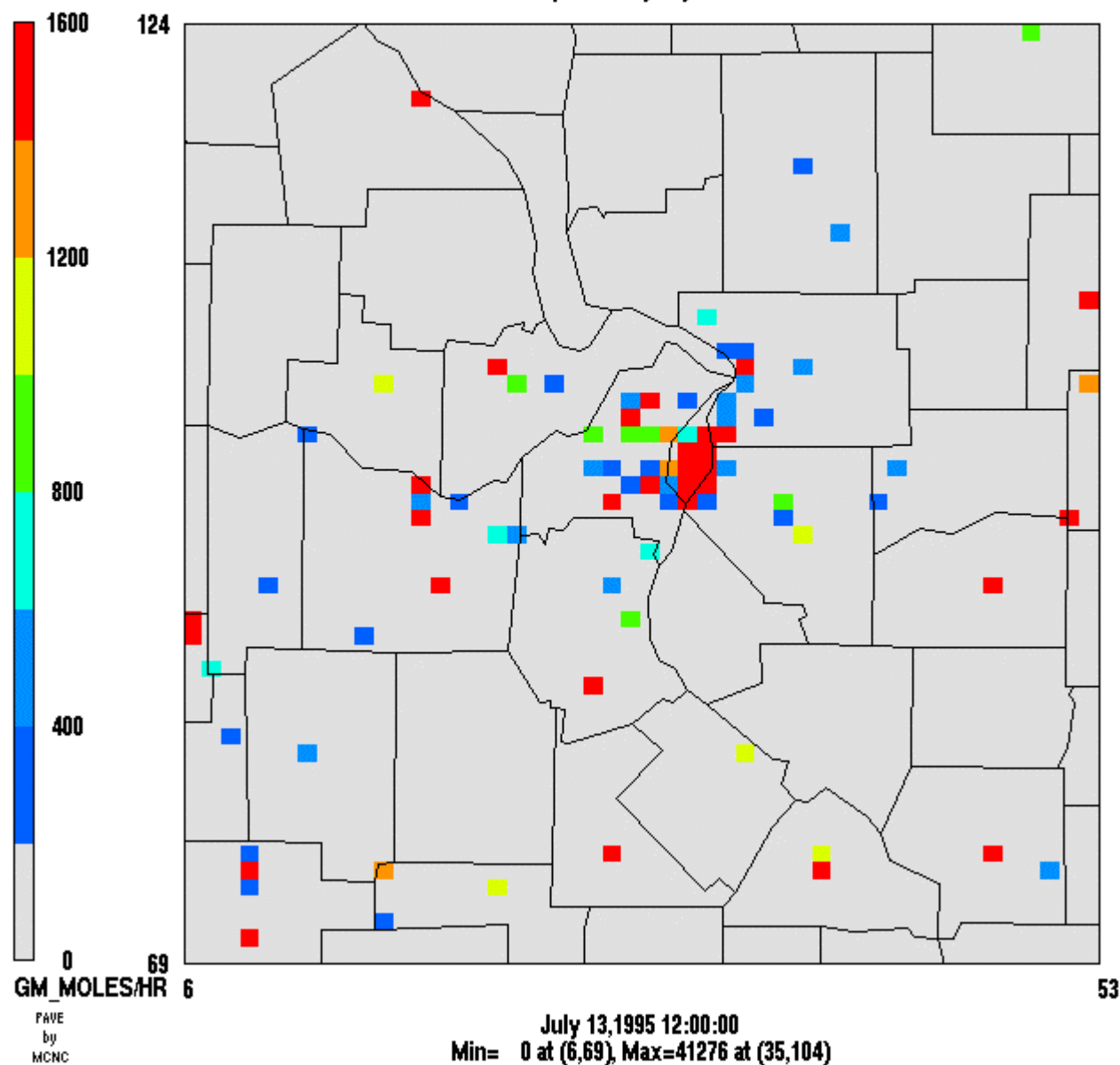
# Area Source VOC Emissions

2003 Attainment Demonstration Inventory  
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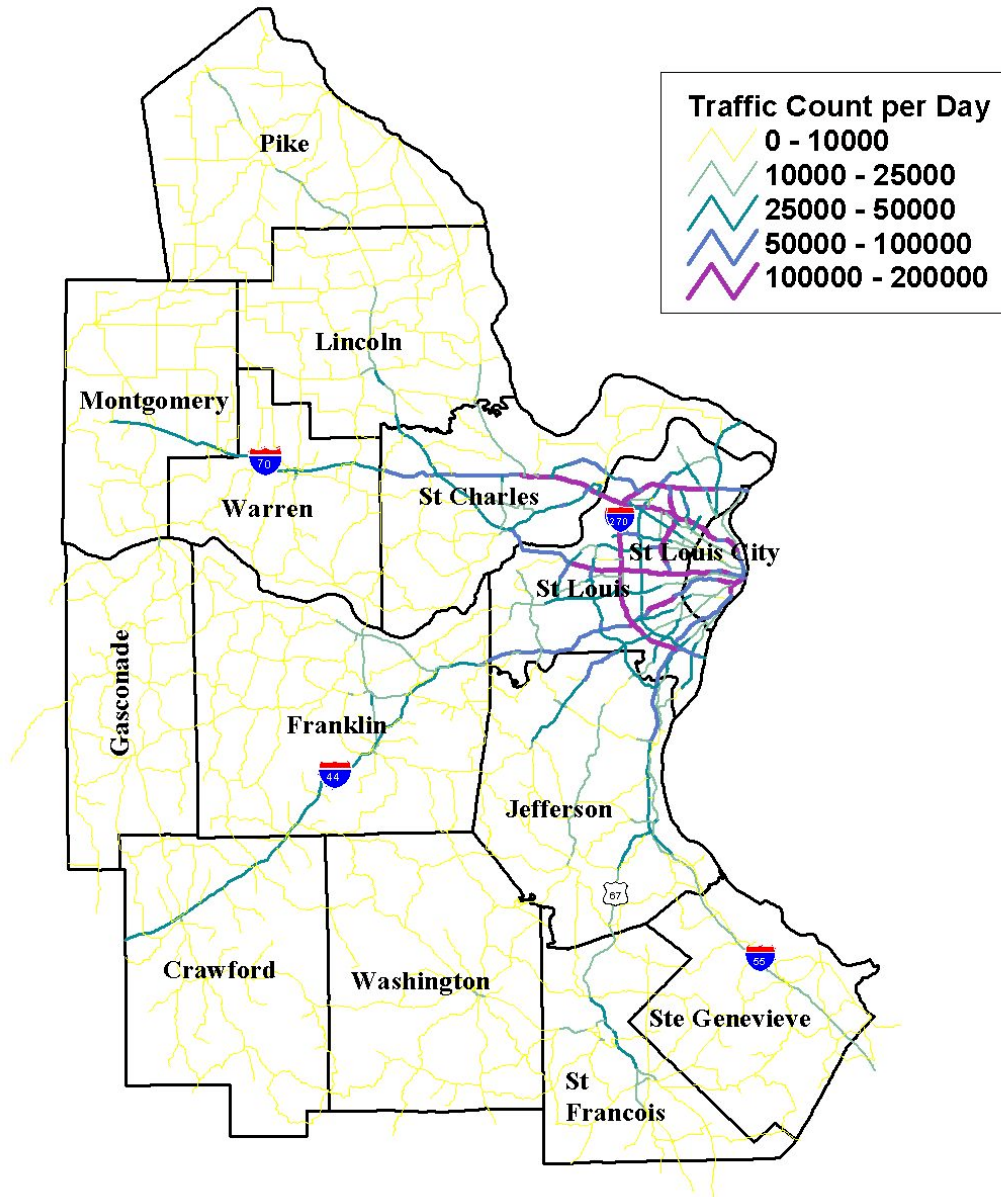
# Low-level Point Source VOC Emissions

2003 Attainment Demonstration Inventory  
d=lowp.weekday.xxjul95.strat3





# 2001 TRAFFIC COUNT FOR MISSOURI COUNTIES IN THE ST. LOUIS AREA





# **Regional NOx Controls**

- **10 CSR 10-6.350 -- Missouri Statewide NOx Trading Rule**
- **Control of emissions from electric generating units in eastern 1/3 of Missouri to 0.25 lb NOx/MMBTU and 0.35 lb NOx/MMBTU in western 2/3 of Missouri**

# Summary

- **MDNR will continue to collect and review information to be used in support of the 8-hour designation recommendation**
- **Upon completion of that effort (including input from the affected communities), MDNR will propose boundary designations for areas in Missouri**